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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/077,310	02/15/2002	Kyool Seop Lee	13921-002001	3387

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EXAMINER	
JUSKA, CHERYL ANN	
ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/077,310	LEE ET AL.
	Examiner	Art Unit
	Cheryl Juska	1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) *11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-10, in the paper filed September 24, 2003, has been acknowledged. Claim 11 is hereby withdrawn as non-elected.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 2, 4, 6, 8, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Claim 1 is indefinite for the phrase "heat-setting twisted PTT yarns with a density of 200-240 g/m by use of a Superba." First, said phrase is indefinite because it is unclear if the "twist" is equivalent or different to the "cabling" of the previous step.

2. Secondly, it is unclear what the density is referring to. Is this the density of the PTT polymer or the yarns? The units of density are conventionally mass per volume, rather than the claimed mass per length. Does applicant intend to claim the *linear density* or denier (i.e., mass per unit length) of the yarn instead of density? If this is the case, the values given are still indefinite since 200-240 g/m would convert to 1,800,000-2,160,000 denier (g/9000 m), which is incomprehensible for a carpet yarn. Due to the indefiniteness, the "density" limitation is not examined on the merits at this time.

3. Thirdly, claim 1 is indefinite for the use of a registered trade name, "Superba." Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 USC 112, 2nd paragraph. See *Ex parte Simpson*, 218 USPQ 1020. The claim scope is uncertain since the trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name.

4. Claim 1 is also indefinite for the use of the phrase "becking a dyed carpet." It is unclear what applicant intends to encompass by the step since it is unknown what "becking" is, other than the use of a beck dyeing machine to dye a textile. Does applicant intend the step to be "backing" a carpet with an adhesive backcoat and/or a secondary backing? This appears to be the case due to the limitations of dependent claim 9. Claim 9 is similarly rejected.

5. Claim 2 is indefinite because it is unclear if the dope dyed PTT yarns are the same yarns or different yarns which are beck dyed in claim 1.

6. Claim 4 is indefinite because it is unclear at what point in the claimed process the new step of 'condensing the PTT yarns without a heat-setting step,' since claim 1 already includes a heat-setting step.

7. Claim 6 is indefinite for limiting the height of a loop pile carpet (i.e., not-cut loop pile carpet), since claim 1 already includes the step of "shearing," or cutting the loop pile.

8. Claim 8 is indefinite because it is unclear if applicant intends to encompass an embodiment of space dyeing the PTT yarns and then disperse dyeing said yarns.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-7, 9, and 10 are rejected under 35 USC 103(a) as being unpatentable over US 6,242,091 issued to Howell et al. in view of US 6,315,934 issued to Chuah.

Howell discloses carpets made of PTT yarns. The carpets are made by tufting yarns of crimped, ply twisted, bulked continuous filaments (BCF) (col. 1, lines 47-50). Said yarns have a denier per filament ranging from 4-25 and a total yarn denier ranging from 700-5000 (col. 1, lines 55-61). Specifically, a number of spun PTT filaments are bulked and/or entangled by means of a jet bulking unit and/or entangling unit (col. 3, lines 25-53). The bulked yarns are then cable twisted together in an amount ranging from 3.5-6.5 twists per inch (tpi) and heat set at a temperature of 270-290 F by way of an autoclave or Superba® unit (col. 4, lines 27-32). The cabled and heat-set yarns are then tufted into a primary backing and a latex backcoat and secondary backing are applied (col. 4, lines 33-34). The carpets may have a cut loop pile height of 0.25-1 inch or a loop pile height of 0.125-0.375 inches (col. 4, lines 34-37). Additionally, Howell teaches a 160 hole spinneret that forms two 80 filament strands, wherein the filaments have a trilobal cross section and a modification ratio of 1.7 (col. 6, lines 37-41). Furthermore, Howell teaches cable twisting yarns of 4 plies with 4 tpi (col. 7, lines 42-45). Carpets made from said yarns are dyed in a Beck with disperse dyes (col. 7, lines 44-45).

Thus, Howell teaches the presently claimed invention with the exception of (a) the band speed of the Superba®, (b) the number of stitches per inch in the tufted carpet, and (c) the lack of a carrier and the process conditions of the beck dyeing step. With respect to the band speed, it is argued that this limitation is obvious over the cited Howell reference, since it has been held that where the general conditions of a claim are disclosed in the prior art, finding the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to the number of stitches per inch, applicant is hereby given Official Notice that carpets are typically tufted with a number of stitches per inch in the range disclosed. Thus, it would have been obvious to a person having ordinary skill in the art to tuft the Howell carpet with a stitch density in the range of 5-15 stitches per inch as claimed. Such a modification would have been motivated by the convention in the art. The Examiner notes that the facts asserted to be common and well-known are capable of instant and unquestionable demonstration as being well-known. To adequately traverse such a finding, applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art.

With respect to lack of carrier and the process conditions of the beck dyeing step, it is argued that this feature is well known in the art of carpeting. For example, Chuah discloses BCF, air entangled, twisted and heat-set PTT yarns for tufting into carpets. Additionally, Chuah teaches dyeing the tufted pile carpet with a disperse dye, without a carrier, at atmospheric boil (col. 8, lines 1-5). Thus, it would have been obvious to one skilled in the art to dye the PTT carpet of Howell with a disperse dye and no carrier at atmospheric pressure and a temperature of

90-100 C, since it is known in the art that disperse dyeing without carriers is suitable for PTT carpets, as evidenced by Chuah. Hence, claims 1 and 6 are rejected.

Claims 2 and 9 are rejected along with claim 1, since the limitations of said claims amount to structural limitations in a method claim. As such, said limitations are not given patentable weight at this time. To be entitled to weight in method claims, the recited structure limitations must affect the method in a manipulative sense and not amount to the mere claiming of a use of a particular structure. *Ex parte Pfeiffer*, 135 USPQ 31. The presence of dope dyed yarns does not materially affect the process claimed. Additionally, the composition of the latex does not materially affect the process step of applying a latex backcoat. Therefore, claims 2 and 9 are rejected.

With respect to claim 3, while the cited prior art lacks a teaching that the cabling is a Z-twist in a two- or three-ply cable, Howell does teach the claimed twist amount. Specifically, applicant claims 180-250 twist per meter, or about 4.6-6.4 turns per inch (tpi), while Howell discloses 3.5-6.5 tpi. However, it is argued that claim 3 is obvious over the cited prior art in that Z-twists and two- or three-ply cables are well known and common in the art. Applicant is hereby given Official Notice of this fact. Thus, it would have been obvious to one skilled in the art to select a Z-twist and a two- or three-ply cable, since both are well known yarn structures suited for carpet yarns which would have been readily known to one skilled in the art. Therefore, claim 3 is rejected.

With respect to claim 4, it is noted that Howell teaches air entangling the yarns, but fails to teach the claimed process conditions of line speed and air pressure. However, it is argued this limitation is obvious over Howell since it has been held that where the general conditions of a

claim are disclosed in the prior art, the workable or optimum ranges are within routine skill in the art. *In re Aller*, 105 USPQ 233. Therefore, claim 4 is also rejected.

With respect to claim 5, frieze pile carpets by definition have a high ply twist, which is typically a twist of greater than 5.5 tpi. (See US 5,325,301 issued to Knoff et al., col. 2, lines 45-57). Since, Howell teaches a tpi of up to 6.5, it is asserted that the presently claimed step of "frieze processing" is met by the Howell disclosure.

With respect to claim 7, Howell and Chuah fail to explicitly teach the dyebath composition. However, the claimed 0.01-3 % owf, 10:1 – 25: 1 liquor ratio, and 0.25-1.0 g/L of a dispersing agent are well known in the art. Applicant is hereby given Official Notice of this fact. It would have been obvious to one skilled in the art to select the claimed dyebath composition since said composition is typical of disperse dyebaths. One skilled in the art would readily be able to determine suitable dyebath parameters for the PTT carpet based upon the knowledge of common disperse dyebath compositions. Therefore, claim 7 is rejected.

With respect to claim 10, it is noted that Howell teaches the present limitations with the exception of the arm angle. However, it is argued this limitation is obvious over Howell since it has been held that where the general conditions of a claim are disclosed in the prior art, the workable or optimum ranges are within routine skill in the art. *In re Aller*, 105 USPQ 233. Therefore, claim 10 is also rejected.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the cited Howell and Chuah, as applied to claims 1 or 2 above, and in further view of US 5,160,347 issued to Kay et al.

Howell and Chuah do not teach space dyeing the PTT yarns and then disperse dyeing said yarns when tufted into the carpet. However, this method of dyeing carpet is known in the art. For example, Kay teaches space dyeing polyester yarns, tufting said space dyed yarns into a carpet, and dyeing said carpet with a disperse dye to produce an aesthetically pleasing multicolored carpet (abstract). Thus, it would have been obvious to one skilled in the art to employ space dyed yarns for the PTT yarns of Howell and Chuah in order to produce an aesthetically pleasing multicolored carpet. Therefore, claim 8 is rejected.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Cheryl Juska whose telephone number is 571-272-1477. The Examiner can normally be reached on Monday-Friday 10am-6pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.

CHERYL A. JUSKA
PRIMARY EXAMINER

cj
January 12, 2004